

# LIU-SPS review for BI



- **Emphasis:**
  - Milestones for 2017 and YETS
- **Instruments:**
  - Diamond BLMs
  - Fast (ring) BCT
  - BSRT
  - BGI
  - Head-tail
  - SPS Orbit and fibres
  - SBDS
  - BWS → covered by Ray
- **Budget situation**
- **Conclusion**

**Lars Jensen - on behalf of BE/BI**

# Diamond BLMs

- LSS1 (new detector installation) (scraper)
  - Done:
    - Electronics and timing installed and connected
    - First version of software (BI and OP)
  - To do:
    - Find most suited attenuation levels
    - Identify changes to firmware and software
    - System commissioning
- LSS4, LSS6, UA23, UA87 (existing)
  - Done:
    - Order for electronics sent
  - To do:
    - Install remaining electronics
    - Develop and test software
    - System commissioning (Q4/2017)

# Fast BCT (ECA5)

- LSS5 location (existing)
  - Done:
    - New BCW detector installed (51932)
    - New electronics and software installed
  - To do:
    - Calibration for true bunch by bunch

# BSRT (LSS5)

- Done:
  - Gained experience with digital camera
  - Software specifications agreed (first steps)
- To do:
  - Develop BI software for performance assessment (use for OP and MD)
    - Presentation at BI beam size review (Nov-2017)
  - Mechanical design for LS2 solution to proceed (BI/MME) within existing budget
    - Budget questions (2017->LS2) to be sorted by early 2018

# BGI

- Done:
  - Agree on V location from LS2 (detectors and magnets) as per the general SSR (E. Carlier)
  - Performance assessment of SPS BGI systems on-going
- To do:
  - Presentation at BI beam size review (Nov-2017)
    - Identify ways forward (detectors, electronics and software)
  - LS2: Move vertical device to new location with cables and magnets

# Head-tail

- Done
  - No more spending foreseen
  - Working system for MD users
    - Issues maintaining electronics and software
- To do:
  - Software milestones to be decided and system put into operation (Q4/2017)

# Upgrade SPS Orbit (MOPOS) #1

## Milestone-plan:

- 2017:
  - Radiation testing (CHARM) – news?
  - Redesign and layout changes for the analogue front end
  - Finance committee (electronics production)
  - Validation with beam (limited number of BPMs)

## YETS:

- Full SPS sextant installation

## 2018:

- BI firmware and software development
- Operational validation (1/6 of the SPS)

## LS2:

- Full installation and hardware commissioning

## Optical fibre infrastructure:

- Installation as planned
- Spending profile to be updated

# SBDS for BI

- Done
  - Space reservation for BI systems (LSS5)
  - Beam profile / position decided (ABT/STI)
  - BLM locations decided
- To do
  - Integration study for BTV solution
  - Update cable installation requests
  - Update radiation simulation for area downstream of dump (DC BCT electronics)
  - Update spending profile



# Budget situation EVM/CET

Code description	CtC	Code	2017/c'ted	2018	2019
BLM Upgrade (Fast) Upgrade IC BLM	102k 110k	64041	32/36		
Transverse Profile upgrade (BSRT)	82k	64042	25 / 8		
Transverse diagnostics (H/T)	160k	64043	0/0		
BCT upgrades (ring)	210k	64044	11/32		
SBDS for BI	250k	64045	30k / 0	70k	80k
New MOPOS electronics	2.5M	64046	347/183	326	30
Optical fibres	1.2M	64724	176/269	TBD	TBD

# EVM reporting

Project	Updated (yes/no)	Who
BWS control electronics	No	Federico
BWS acquisition	No	Federico
BWS commercial mechanics	Yes	Ray (31-7-2017)
BWS mechanics	Yes	Ray (31-7-2017)
Fast BLM electronics	No	Christos
Fibre optics	(yes)	Thibaut (23-5-2017)
MOPOS upgrade	No	Andrea
BSRT upgrade	Yes	Federico (07-06-2017)
Head-tail	Yes	Thibaut (04-09-2017)

# Conclusions and outlook

- Diamond BLM project to be completed (electronics procurement and software)
- Fast BCT project complete
- BGI system complete
  - Being assessed by BI, presented (Nov-2017)
- SBDS decisions now on track
- MOPOS upgrade and fibres
  - Milestones and spending profile
- BSRT
  - Results pending (review Nov-2017)
  - (more money for 2018)